

the heart; the natural tonus of the vagus is reduced. In a dog, through massage, the pulse ran from twenty-six to sixty-four in a minute, and after massage fell back to thirty-six per minute. If the vagi were divided, the pulse was not accelerated by massage. The blood-pressure was elevated. *Centralblatt f. d. med. Wiss.*, 1883, No. 14.

ISAAC OTT, M.D.

### C.—GENERAL PATHOLOGY OF THE NERVOUS SYSTEM.

TONER LECTURE ON MENTAL OVERWORK AND PREMATURE DISEASE AMONG PUBLIC AND PROFESSIONAL MEN. By Charles K. Mills, M.D.—The "Toner Lectures" have been instituted at Washington, D. C., by Joseph M. Toner, M.D., who has placed in charge of a board of trustees a fund, the interest of which is to be applied for at least two annual memoirs or essays relative to some branch of medical science, and containing some new truth fully established by experiment or observation. As these lectures are intended to increase and diffuse knowledge, they have been accepted for publication by the Smithsonian Institution in its "Miscellaneous Collections." Since the establishment of this fund, nine lectures in all have been delivered. The first lecture of the series was delivered March 28, 1873, by the late Dr. J. J. Woodward. Other lectures have been delivered successively, at irregular intervals, by D. C. E. Brown-Séquard of France, Dr. J. M. DaCosta, Dr. H. C. Wood, Dr. W. W. Keen, Dr. William Adams of London, Dr. Edward O. Shakespeare, and Mr. George E. Waring, Jr. The ninth lecture was delivered, March 19, 1884, by Dr. Charles K. Mills. His subject, suggested by Dr. Toner, was "Mental Overwork and Premature Disease among Public and Professional Men." This lecture, in the form of a pamphlet of thirty-four pages, has just been published by the Smithsonian Institution.

The longevity of intellectual workers in general is first considered, and is found to be above that of most other classes. The inferences and conclusions of the paper are largely based upon a study of sixty cases, especially collected by the author, cases in which loss of health or life had been mainly attributable to excessive brain work and brain strain.

These cases are arranged into two classes: (1) Men in political and official life, including cabinet officers, senators, representatives, department officials, governors, and candidates for office; (2) Professional men, including physicians, lawyers, clergymen, journalists, scientists, and teachers.

The actual occupations were: cabinet officer, 1; senators, 8; representatives in Congress, 10; department officials, 5; governors, 2; candidates for important offices, 2; physicians, 6; lawyers, 7; clergymen, 2; journalists, 4; scientists, 6; teachers, 7.

Twenty-eight of the sixty, therefore, were men in political and official life, and eighteen of these were members of Congress.

The average longevity of men in the higher walks of political life in this country is regarded as considerably below the average of those who occupy similar positions in England. Comparing, so far as information was available, the ages at death of United States Congressmen and members of the English Parliament, who have died since 1860, the following results were obtained: Fifty-nine United States senators gave an average of sixty-one years; one hundred and forty-six United States representatives an average of fifty-five years; the average for both being, therefore, fifty-eight years. One hundred and twenty-one members of Parliament gave the remarkable average age at death of sixty-eight years.

Taking twenty-five of those that might be regarded as the most eminent American statesmen of the last one hundred years, and comparing their ages at death with those of the same number of the most distinguished English statesmen, the United States gave an average of sixty-nine years, and Great Britain of seventy—no practical difference. It was noticeable, however, that much of the best work of the great English statesmen—of Palmerston, Derby, and Beaconsfield, for instance—had been done at an advanced age, when most American public men have ceased to do any thing important.

The lecturer considers some of the causes which lead to mental overwork and break-down in American public and professional life, the early warnings of such overwork, and the forms of disease most likely to result.

The preparation, qualifications, and modes of life of American public men are discussed, and in some instances comparisons are made with English statesmen. The histories of many of the cases are briefly sketched. The special conditions which lead to overwork and its consequences among physicians, lawyers, journalists, scientists, and teachers are presented at some length, with illustrative cases. The evil effects of competitive examinations and cramming, upon both teachers and scholars, in our public schools are also described.

The symptom-groups and diseases represented by the series of sixty cases are summarized as follows: Acute neurasthenia, 18; insanity, 10; phthisis, 9; diabetes, 4; cerebral hemorrhage, 4; Bright's disease, 3; posterior spinal sclerosis, 3; pneumonia, 3; bulbar paralysis, 1; angina pectoris, 1; erysipelas, 1; hepatitis, 1; enteritis, 1; glossitis, 1.

It was found almost impossible to present in orderly array all the symptoms which may be regarded as the indications of nervous exhaustion, and the probable precursors of premature disease from brain strain and overwork, these symptoms varying somewhat with the individual—with his hereditary tendencies, his habits and his surroundings. There were, however, certain common and positive evidences of existing or coming evil which were present in many cases.

Neurasthenia and lithæmia are discussed.

The most important conclusions are summarized as follows :

1. Intellectual work does not of itself injure health or shorten life, but mental overwork, particularly when associated with emotional strain, is a frequent cause of nervous break-down and premature disease.

2. The average longevity of men in the higher walks of public life is less in this country than in England. Politics here is not, as there, in the best sense a vocation ; and our public men, in many cases, succumb in health, or fail to attain long life, because they go into careers unprepared, by inheritance, education, and training, for the severe demands to be made upon their powers.

3. Health and life are sometimes lost through forgetfulness of the fact that mental strain and overwork are particularly dangerous to those in middle life or advanced in years who attempt brain work and responsibilities to which they have not been accustomed. The effects of suddenly imposed mental strain upon these classes are especially disastrous.

4. If not subjected to unusual mental or physical strain, public and professional men, as well as those in other walks of life, although afflicted with organic diseases, may live in comparative comfort, and able to do a moderate amount of work for many years.

5. Among special causes of premature disease in public life are onerous and perplexing duties on Congressional committees, the uncertainties and disappointments attendant upon public positions, the great strain to which candidates are subjected during political campaigns, lack of recreation, and social excesses and abuses at the national capital.

6. Among physicians, lawyers, and journalists the performance of brain work under pressure for time, and under bad hygienic conditions, is a common cause of ill-health. Defective education and pecuniary harassments are also special causes of nervous break-down and premature disease among physicians and lawyers.

7. Comparatively few clergymen succumb completely to mental overwork, although many suffer from a mild but annoying form of neurasthenia.

8. The danger to the scientific worker usually arises from too intense and too prolonged activity of the mind in one direction.

9. The system of severe competitive examinations in vogue in many communities saps the health of both teachers and pupils. In our schools generally educational methods are bad, recreation is too much neglected, and unhealthy emulation too much encouraged. Education is not properly individualized.

10. Chronic neurasthenia is not common among men prominent in public affairs and in the professions. Such men are, however, sometimes the victims of a severe acute nervous prostration, which may result in serious organic disease.

11. Nervous strain is one of the causes of lithæmia, which is of not infrequent occurrence among public and professional men, but lithæmia and neurasthenia are not interchangeable terms.

12. The warnings of mental overwork and overstrain vary with individuals and circumstances, but certain psychical symptoms, and such physical symptoms as immobility of countenance, diminished resisting power, heart-failure, sleeplessness, cervico-occipital pain or distress, and dyspepsia are of most frequent occurrence.

13. Insanity, particularly in the forms of melancholia and paretic dementia, is sometimes developed by brain strain and overwork. A family history of insanity is often present in such cases.

14. Phthisis, diabetes, and Bright's disease are among other diseases most likely to be developed by mental overwork. Men in whose families phthisis is hereditary should carefully guard against such overwork.

15. Overtaxing the mind and nervous system may be the exciting cause of almost any serious disorder to which chance, accident, imprudence, or infection exposes the individual.

16. Many diseases, not nervous in their seat or manifestation, are developed directly or indirectly as the result of mental and nervous strain, through exhaustion, impairment, or lesion of the centres of the organic functions.

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A CASE OF HEMORRHAGE IN THE CORPUS CALLOSUM.—Erb (*Virchow's Arch.*, Bd. xcvi., Heft 2) reports the case of a male, æt. sixty-one, who was acutely attacked with headache, vertigo, vomiting, rigidity of the neck muscles, and incontinence of urine. He became stupid and somnolent, his respiration was slow and stertorous. Motility and sensibility were normal, except abolition of the patellar tendon reflex. Later, spasms of the extremities, pupillary immobility, and Cheyne-Stokes phenomena appeared, and the tendon reflex returned. Death followed on the eleventh day. There had been no disturbance of speech, deglutition, mastication, or mimetic movements. No paresis, ataxia, rigidity or disturbance of the special senses, and no psychical alterations except the somnolence. A diagnosis was made of sub-acute cerebro-spinal meningitis. The autopsy revealed a cerebro-spinal, hemorrhagic lepto-meningitis, also a hemorrhagic rent of the corpus callosum through its anterior three fourths, involving its entire thickness. Attention is called to the case as showing that almost the entire callosum may be destroyed without disturbance of motility, co-ordination, sensibility, the reflexes, special sensation, the speech, and without profound disturbance of the intellect.—Thomsen in *Centralbl. klin. Med.*

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A CASE OF ACUTE POLIOMYELITIS IN THE ADULT.—John Van Duyn, M.D., of Syracuse, N. Y., reports under the above heading, in *Arch. Med.*, Aug., '84, the case of a male, æt. twenty-three; clerk, of good muscular development, with no history of intem-